

# Egyptian Informatics Journal

## Faculty of Computers and Information

### Cairo University

**Editor-in-Chief****Iman Aly Saroit Ismail**

Dean of Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: EIJ\_EIC@fci-cu.edu.eg

**Executive Editor****Mahmoud Ahmed Ismail Shoman**

Vice Dean for Higher Education and Research,  
Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: EIJ\_EE@fci-cu.edu.eg

**Associate Editors****Hisham M. Abdelsalam**

Department of Operations Research and Decision Support,  
Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: EIJ\_DS@fci-cu.edu.eg

**Hoda Mokhtar Omar Mokhtar**

Department of Information Systems,  
Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: EIJ\_IS@fci-cu.edu.eg

**Mohamed Ahmed Wahby**

Department of Information Technology,  
Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: EIJ\_IT@fci-cu.edu.eg

**Nouh Sabri Elmitwally**

Department of Computer Science,  
Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: EIJ\_CS@fci-cu.edu.eg

**Editorial Board****Hoda Mohamed Onsi Ali**

Department of Information Technology,  
Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: h.onsi@fci-cu.edu.eg

**Ihab Ilyas**

Cheriton School of Computer Science,  
University of Waterloo, Canada  
E-mail: ilyas@uwaterloo.ca

**Amr El-Abbadi**

Department of Computer Science,  
University of California,  
Santa Barbara, USA  
E-mail: amr@cs.ucsb.edu

**Reda Abdul-Wahab Ahmed**

Department of Information Technology,  
Faculty of Computers and Information,  
Cairo University, Egypt  
E-mail: r.abdelwahab@fci-cu.edu.eg

**Amer Youssef**

Computer Science Department,  
Concordia University,  
Canada  
E-mail: youssef@ciise.concordia.ca

**Hossam S. Hassanien**

School of Computing and Department  
of Electrical and Computer Engineering,  
Queens University,  
Kingston, Ontario, Canada  
E-mail: hossam@cs.queensu.ca

**Seif Haridi**

School of Information and  
Communication Technology,  
KTH Royal Institute of Technology,  
Sweden  
E-mail: seif@imit.kth.se

**Reem Mohamed Reda Bahgat**

Department of Computer Science,  
Faculty of Computers and Information,  
Cairo University,  
Egypt  
Email: r.bahgat@fci-cu.edu.eg

**Khairy A.H. Kobbacy**

School of Built Environment,  
University of Saltford, UK  
E-mail: kobbacyk@gmail.com

**Administrative Secretary****Mrs. Karima Abd El-Azim Aly Kassab**

5 Ahmed Zewail St., Orman, Giza, Egypt  
Tel.: +(202) 33381687; Fax: +(202) 33350109  
E-mail: EIJ@fci-cu.edu.eg

**Mrs. Shereen Ahmed Mohamed Khaliel**

5 Ahmed Zewail St., Orman, Giza, Egypt  
Tel.: +(202) 33381687; Fax: +(202) 33350109  
E-mail: EIJ@fci-cu.edu.eg

**For Subscription and Contributions:****Prof. Mahmoud Ahmed Ismail Shoman**

Faculty of Computers and Information,  
Cairo University, Egypt  
5 Ahmed Zewail St., Orman, Giza,  
P.O. Box 12613, Egypt  
Tel.: +(202) 33381687; Fax: +(202) 33350109  
E-mail: EIJ@fci-cu.edu.eg  
Faculty Home Page: [www.fci.cu.edu.eg](http://www.fci.cu.edu.eg)